



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR)

- as to the identity of the inventor (Rule 4.17(i)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR)
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,

KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR)

- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- with amended claims and statement

Date of publication of the amended claims and statement:

2 October 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

AMENDED CLAIMS

[received by the International Bureau on 13 August 2003 (13.08.03);
original claims 1-17 replaced by new claims 1-20]

CLAIMS**1. A lock comprising:**

a secure housing having discrete first and second portions disposed apart either side of an element incorporating engaging recess means and wherein,

said first portion comprises receival means for mechanical components said mechanical components providing a plurality of selectable means for independent control and operation of said lock; and

said second portion comprises selectively latchable receival means for an electronics module latchably engageable with said engaging recess means of said element of said housing and selectively removable therefrom and providing means when present and functional for control and operation of said lock, and

rotatable handle means external of said first portion of said secure housing selectively operatively and connectably engaged with said mechanical components of said first portion of said lock

said mechanical components in said first portion of the housing comprising:

a bolt, and;

a retaining pin for releasably retaining said bolt in position in said lock and a linkage mechanism for operatively connecting said rotatable handle means to said retaining pin to cause rotating movement of said rotatable handle means to displace said retaining pin,

a mechanical key-operated lock;

a key for said mechanical key-operated lock;

means for selectively releasing said electronics module,

said selectively removable electronics module comprises:

a power supply;

wireless transceiver and antenna means capable of receiving an authorisation signal from non-contact electronic key means; and

actuator means responsive to said authorisation signal,

wherein when said electronics module is present and functional within said second portion of said secure housing of said lock receipt of an authorisation signal from said non-contact key means causes said actuator means to interact with said linkage mechanism to permit rotatable movement of said rotatable handle means to displace said retaining pin, and;

wherein when said electronics module is latching engaged within said second portion of said secure housing of said lock turning of said key for said mechanical key-operated lock for releasing said electronics module, releases said electronics module permitting said lock to be operated manually by rotatable handle means to displace said retaining pin.

2. A lock as claimed in Claim 1, wherein said mechanical key-operated lock and key can also release said locking pin from said bolt to perform a manual override operation in the event of failure of said electronics module.
3. A lock as claimed in Claims 1 and 2, wherein the turning of said key in said mechanical key-operated lock in a first direction releases said retaining pin from said bolt and wherein the turning of said key in a second direction releases said electronic module from said second portion of said housing.
4. A lock as claimed in Claims 1 to 4, wherein said mechanical key-operated lock is arranged to receive a first key type which can only turn said mechanical key-operated lock in a first direction and a second key type which that can only turn said mechanical key-operated lock in a second opposite direction.
5. A lock as claimed in Claims 1 to 4, wherein said mechanical key-operated lock is arranged to receive a key type which can turn said mechanical key-operated lock in both directions.
6. A lock as claimed in any preceding claim, wherein said linkage mechanism only provides a mechanical linkage between said handle means and said retaining pin when an authorisation signal has been received.

7. A lock as claimed in any preceding claim, further comprising a security cover plate fixed over and preventing access to a keyhole for a key for operating said mechanical key-operated lock;
8. A lock as claimed in any preceding claim, wherein said electronics module is normally inactivated in a sleep mode and is activated by mechanical operation of said rotatable handle means such that said antenna and transceiver means are enabled to detect the presence of said non-contact electronic key means;
9. A lock as claimed in any preceding claim, wherein said electronics module and said mechanical components are arranged such that an authorisation signal has to be received to permit said bolt to be locked into position by said retaining pin;
10. A lock as claimed in any preceding claim, wherein said electronics module comprises sensor means for detecting the presence of said bolt;
11. A lock as claimed in any preceding claim, wherein said electronics module is in the form of a selectively releasable cartridge;
12. A lock as claimed in any preceding claim, wherein said electronics module incorporates a programmable integrated circuit (PIC);
13. A lock as claimed in any preceding claim, wherein said electronics module incorporates a programmable application specific integrated circuit (ASIC);
14. A lock as claimed in any preceding claim, wherein the circuitry of said electronics module incorporates means for storing the identity, date and time of use of each and every non-contact key means used to generate an authorisation signal to operate said lock thereby maintaining an audit trail;
15. A lock as claimed in Claim 12, wherein said cartridge is a non-functioning dummy mechanically configured such that when latchably engaged in said second portion of said secure housing of said lock said cartridge physically interacts with said mechanical components of said linkage mechanism of said first portion said lock to permit rotatable movement of said rotatable handle means to displace said retaining pin to manually release said lock;
16. A lock as claimed in Claim 12, wherein said cartridge is a non-functioning dummy mechanically configured such that when latchably engaged in said second portion of said secure housing of said lock said cartridge does not interact with any of said mechanical components of said first portion of said lock thereby necessitating use of said

mechanical key-operated lock and key therefor to release said lock permit rotatable movement of said rotatable handle means to displace said retaining pin to manually release said lock;

17. A lock as claimed in any preceding claim, wherein said mechanical key-operated lock is a cylinder lock;
18. A lock substantially as hereinbefore described, with reference to, and/or as illustrated in one or more of the accompanying figures;
19. An electronics module for use with a lock, as claimed in any preceding claim;
20. A lock as claimed in any preceding claim, comprising wireless communications means for communicating with remote transceiver means;

STATEMENT UNDER ARTICLE 19 (1)

Re: Application PCT/GB 03/00333
SUPPLEMENTARY SHEET TO LETTER
STATEMENT UNDER ARTICLE 19 (1)

Applicant does not accept that US 4,656,850 to Tabata anticipates the important claims of PCT/GB 03/00333 since there is no disclosure in Tabata of a lock housing having first and second portions, the first portion for mechanical components and the second portion for a selectively removable electronics module.

Tabata does not disclose any means whereby if electronic operating means for his lock were to be removed, means would remain for the lock to be operated with a mechanical key operated lock, nor are there any indications of any structural equivalents to these important features of the Applicants disclosures either in Tabata or other prior art.

However Applicant does accept that the original Claims, as submitted, failed to differentiate adequately his invention from the prior art, including Tabata.

Accordingly, the original Claims have been extensively redrafted such that detailed descriptions of individual amendments were not feasible and, therefore, new Claims have been submitted instead.